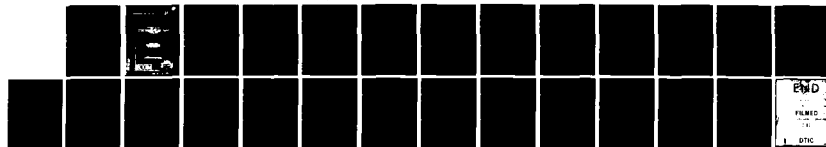
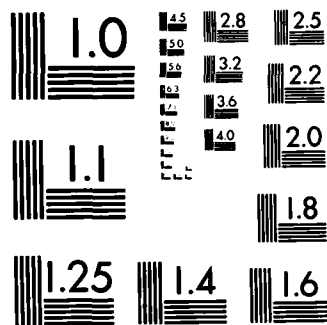


AD-A123 330

19319A MLRS MISSILE NUMBERS RC-003 BN-117 RD-058 RC-002 1/1  
RC-001 RD-026 ROU. (U) ARMY ELECTRONICS RESEARCH AND  
DEVELOPMENT COMMAND WSMR NM ATH. D C KELLER OCT 82  
ERRADCON/ASL-DR-1269 F/G 4/2 NL

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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

AD A123330

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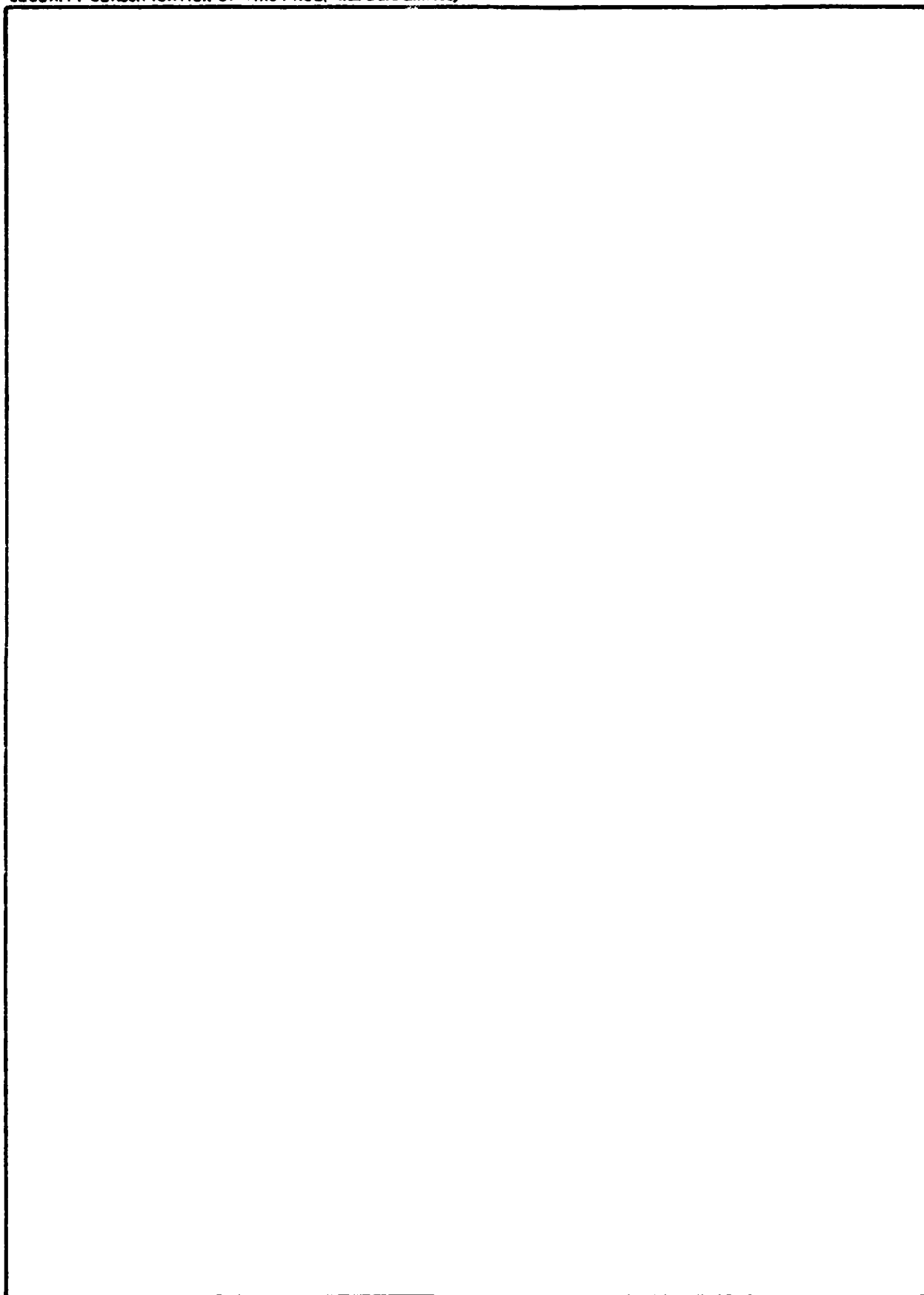
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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4. TITLE (and Subtitle) 19319A MLRS Missile Numbers RC-003, BN-117, RD-058, RC-002, RC-001, RD-026, Round Numbers V-351/DL-1, V-352/DL-2, V-353/DL-3, V-354/DL-4, V-355/DL-5, V-356/DL-06		5. TYPE OF REPORT & PERIOD COVERED
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19319A MLRS, Missile Numbers RC-003, BN-117, RD-058, RC-002, RC-001, RD-026, Round Numbers V-351/DL-1 V-352/DL-2, V-353/DL-3, V-354/DL-4, V-355/DL-5, V-356/DL-06 are presented in tabular form.		

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## PAGE

Application For

RENEWAL ☒ ☐

DISCONTINUANCE ☐ ☐

UPGRADE ☐ ☐

INITIAL REQUEST

REASON

REASON FOR REQUEST

APPROVAL

DATE

Dist

**A**

## INTRODUCTION

10310A MURS, Missile Numbers RC-003, RH-117, RD-058, RE-002, RF-001 and RD-026, Round Numbers V-351/DL-1, V-352/DL-2, V-353/DL-3, V-354/DL-4, V-355/DL-5 and V-356/DL-06, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0838:17, 0838:21, 0838:26, 0838:30, 0838:35 and 0838:40 MDT, 29 Oct 82. The scheduled launch times were 0830 MDT. (8 T's with 4.5 second separation).

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

#### SITE AND ALTITUDE

WSD 2km

DNW 2km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

#### SITE AND TIME

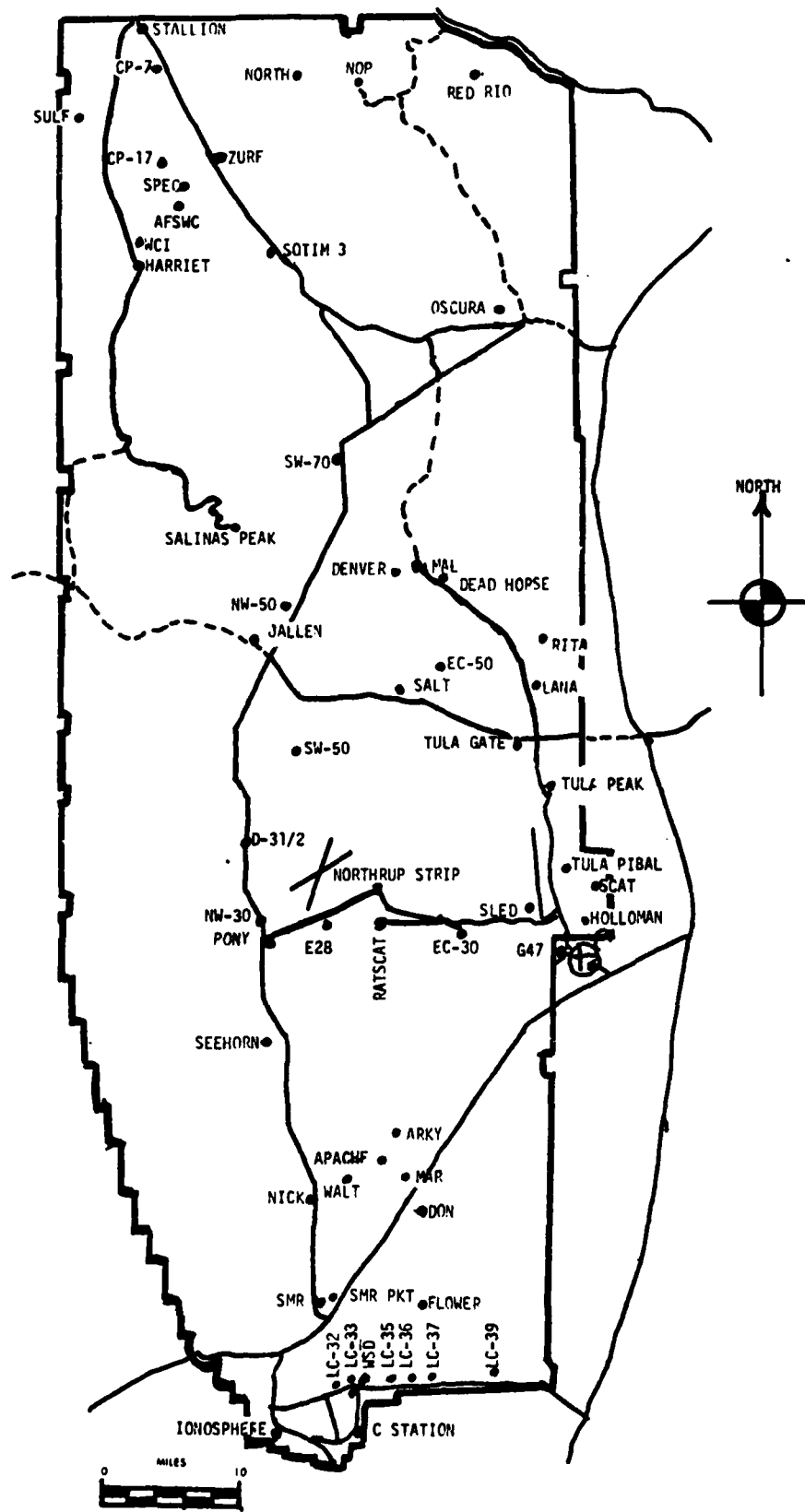
WSD 0630 MDT

LC-37 0730 MDT

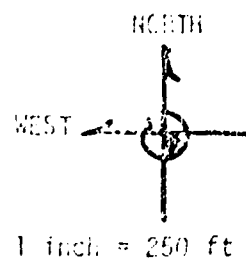
WSD 0830 MDT



# WSMR METEOROLOGICAL SITES



LC-33  
Launch Area



Y135,500

Line of Fire

Anemometer Pole #3

Anemometer Pole #2

L-579A

L-519A

L-351A

L-350A

Anemometer Pole #1

MLT  
Tower

Y135,000  
T-9 Radar

Y185,000

Y485,000

Y495,500

Y485,000

Y185,000

L-500

# PROJECT SURFACE OBSERVATION

TABLE 1											
STATION LC-33 E & A											
DATE 29		Oct		82		X= 484,982.64		Y= 35,957.73 H= 3995.00			
DAY		MONTH		YEAR							
TIME M D I	PRESSURE mbs	TEMPERATURE OF	OC	DEW POINT OF	OC	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	DIRECTION degs	WIND SPEED kts	CHARACTER kts	VISIBILITY
0838	882.9	4.0		-9.9		35	1109	135	01		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
	1	AC	12,000	3	CI	22,000	

## PSYCHROMETRIC COMPUTATION

TIME: MDT	0838	
DRY BULB TEMP.	4.0	
WET BULB TEMP.	-1.0	
WET BULB DEPR.	5.0	
DEW POINT	-9.9	
RELATIVE HUMID.	35	

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASUREMENTS

POLE #1 X485,974.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,974.29 Y185,957.30 H4033.57 53.0 ft. AGL			POLE #3 X485,977.00 Y185,956.00 H4063.90 85.0 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30		CALM	T-30		CALM	T-30		CALM
T-20		CALM	T-20		CALM	T-20		CALM
T-10		CALM	T-10		CALM	T-10		CALM
T0.0		CALM	T0.0		CALM	T0.0	030	CALM
T+10	047	CALM	T+10		CALM	T+10	032	CALM

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER BLASPEED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 52 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	144	01	T-30		CALM
T-20	144	01	T-20		CALM
T-10	144	01	T-10		CALM
T0.0	135	01	T0.0		CALM
T+10	133	01	T+10		CALM

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30		CALM	T-30	021	04
T-20		CALM	T-20	021	04
T-10		CALM	T-10	021	04
T0.0		CALM	T0.0	021	04
T+10		CALM	T+10	021	03

TABLE 4

## T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 29 Oct 82

SITE: WSD  
TIME: 0838 MDT  
WSTM COORDINATES:  
X= 488,852.29  
Y= 184,982.45  
H= 3,993.75

SITE: WSD  
TIME 0838 MDT  
WSTM COORDINATES:  
X= 511,988.37  
Y= 247,396.36  
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	006	06
210	010	11
270	017	07
330	010	03
390	043	04
500	045	01
650	046	01
800	199	04
950	237	09
1150	233	12
1350	230	13
1550	244	12
1750	248	14
2000	243	15

Data obtained from a NIKE-HERCULES  
Radar Tracked pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	320	01
150	356	06
210	360	06
270	007	04
330	025	03
390	037	02
500	069	01
650	192	07
800	201	09
950	246	09
1150	248	12
1350	245	11
1550	237	11
1750	252	10
2000	267	11

Data obtained from a Single Theodolite  
Tracked pilot-balloon observation.

# AIMING AND T-TIME COMPUTER MET MESSAGES

29 Oct 82

WSD 0630 MDT	LC-37 0730 MDT
METCM1324064	METCM1324063
291250122881	291350124880
00000000 27100881	00000000 27100880
01621007 27700871	01617007 27950869
02048003 28240845	02040003 28310843
03287003 28140805	03362004 28260303
04420009 27960757	04408010 28040756
05451013 27710712	05438013 27760711
06473016 27630670	06468015 27650669
07503014 27460629	07491012 27500629
08497017 27120591	08492015 27190591
09448005 26850555	09411006 26960555
10583010 26560521	10515010 26730521
11545016 26160488	11520015 26420488
	12524022 25680443

WSD 0830 MDT
METCM1324064
291460122832
00000000 27410832
01002007 27750872
02037004 28170845
03409003 28130805
04421013 28050758
05441014 27730713
06452015 27620671
07472013 27460630
08511013 27150592
09437012 26970556
10499007 26670522
11529017 26260489
12532024 25600443

GEOLYTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

SIGNIFICANT LEVEL DATA  
1030020525  
WHITE SANDS  
TABLE 6

STATION ALTITUDE 3989.00 FEET MSL  
29 OCT. 82  
ASCENSION NO. 525

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
881.4	3989.0	-2.6	-10.8	53.0
868.0	4394.0	5.4	-10.8	50.0
859.3	4665.7	8.4	-10.5	25.0
850.0	4961.1	9.1	-11.5	22.0
831.9	5545.0	8.9	-11.6	22.0
820.4	5923.6	8.2	-12.8	21.0
796.7	6717.5	7.9	-13.0	20.0
751.3	8299.9	5.0	-15.9	19.0
707.0	10190.4	2.7	-19.0	18.0
660.3	11582.3	3.1	-18.9	18.0
637.9	12660.0	2.1	-18.5	20.0
600.5	14251.9	-1.5	-19.9	23.0
589.2	14747.9	-2.8	-21.5	22.0
579.6	15175.9	-2.6	-23.0	19.0
539.3	17041.6	-6.3	-27.9	16.0
517.9	18079.7	-7.8	-29.2	16.0
500.0	18975.4	-9.3	-30.3	17.0
444.8	21895.1	-18.4	-35.7	20.0

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

UPPER AIR DATA  
3020020525  
WHITE SANDS  
TABLE 7

STATION ALTITUDE 3989.00 FEET MSL  
29 OCT. 82  
ASCENSION NO. 525  
0630 HDT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.4	-2.6	-10.8	53.0	1133.6	641.2	.0	.0	1.000266
4000.0	881.0	-2.4	-10.8	52.4	1132.2	641.4	142.5	.0	1.000266
4500.0	864.6	6.6	-10.6	28.0	1075.5	652.0	142.5	.6	1.000253
5000.0	848.8	9.1	-11.5	22.0	1046.5	654.9	142.5	1.2	1.000245
5500.0	833.3	8.9	-11.6	22.0	1023.0	654.7	142.5	1.9	1.000241
6000.0	818.1	8.2	-12.9	20.9	1012.0	653.8	142.5	2.5	1.000236
6500.0	803.1	8.0	-13.4	20.3	994.2	653.5	137.3	3.3	1.000232
7000.0	788.4	7.5	-14.0	19.8	977.5	653.0	125.4	4.9	1.000228
7500.0	773.9	6.9	-14.8	19.5	961.8	652.3	119.4	6.6	1.000224
8000.0	759.7	6.3	-15.5	19.2	946.3	651.5	71.6	4.5	1.000220
8500.0	745.7	5.6	-16.2	18.9	931.2	650.7	13.7	7.8	1.000216
9000.0	731.9	4.8	-17.1	18.6	916.6	649.8	345.0	10.9	1.000212
9500.0	718.3	4.0	-17.9	18.4	902.2	648.8	291.9	14.2	1.000208
10000.0	705.0	3.2	-18.7	18.1	888.1	647.9	270.1	23.5	1.000205
10500.0	691.9	2.9	-19.0	18.0	872.4	647.6	255.9	27.0	1.000201
11000.0	679.0	3.0	-19.9	18.0	855.9	647.7	243.5	30.3	1.000197
11500.0	666.4	3.1	-18.9	18.0	839.7	647.7	237.6	30.6	1.000194
12000.0	653.9	2.7	-10.7	18.8	825.2	647.3	239.8	23.8	1.000191
12500.0	641.8	2.2	-18.5	19.7	811.1	646.8	243.9	16.9	1.000188
13000.0	629.7	1.3	-18.7	20.6	798.6	645.7	250.7	14.6	1.000185
13500.0	617.9	.2	-19.2	21.6	786.8	644.4	257.7	14.5	1.000182
14000.0	606.3	-.9	-19.6	22.5	775.2	643.0	264.8	14.7	1.000179
14500.0	594.8	-2.2	-20.7	22.5	764.1	641.6	272.4	13.7	1.000176
15000.0	583.5	-2.7	-22.3	20.2	751.1	640.9	261.4	12.6	1.000173
15500.0	572.4	-3.2	-23.8	18.5	738.3	640.2	291.8	12.0	1.000169
16000.0	561.4	-4.2	-25.1	17.7	726.9	639.0	302.1	10.2	1.000166
16500.0	550.7	-5.2	-26.5	16.9	715.7	637.8	316.2	8.9	1.000163
17000.0	540.2	-6.2	-27.8	16.1	704.7	636.6	326.4	8.6	1.000160
17500.0	529.7	-7.0	-28.5	16.0	693.0	635.7	321.9	9.6	1.000157
18000.0	519.5	-7.7	-29.1	16.0	681.5	634.9	318.2	10.6	1.000155
18500.0	509.4	-8.8	-29.7	16.5	671.0	633.5	313.6	12.0	1.000152
19000.0	499.5	-10.0	-30.3	17.0	660.9	632.1	309.1	13.9	1.000150
19500.0	489.6	-11.4	-31.2	17.5	651.5	630.4	305.7	15.8	1.000148
20000.0	479.9	-12.9	-32.1	18.1	642.1	628.6			1.000145
20500.0	470.4	-14.3	-33.1	18.6	632.9	626.8			1.000143
21000.0	461.0	-15.8	-34.0	19.1	623.9	625.1			1.000141
21500.0	451.9	-17.2	-35.0	19.6	615.0	623.3			1.000139



STATION ALTITUDE 3409.00 FEET MSL  
29 OCT. 62 0630 MDT  
ASCENSION I.O. 525

EXPERIMENTAL LEVELS  
SC00020925  
WHITE BANDS  
TABLE C

CELESTIAL COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREE	W POINT CELSIUS		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4957.	9.1	-11.5	22.	142.5	1.2
800.0	6600.	7.9	-13.5	20.	134.0	3.6
750.0	8339.	5.8	-16.0	19.	24.9	6.2
700.0	10180.	2.0	-19.0	18.	265.1	25.7
650.0	12140.	2.0	-18.0	15.	240.8	21.6
600.0	14257.	-1.6	-20.0	25.	260.0	14.2
550.0	16514.	-5.3	-26.0	17.	317.0	8.8
500.0	18949.	-9.9	-30.3	17.	309.4	13.8
450.0	21576.	-17.6	-35.2	20.		

STATION ALTITUDE 4451.37 FEET MSL  
29 OCT. 62  
ASCENSION NO. 110

SIGNIFICANT LEVEL DATA  
3020160110

LC-37  
TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
		AIR	DEWPOINT	
879.7	4051.4	-2.6	-8.1	66.0
874.6	4205.0	5.0	-10.7	51.0
860.1	4650.5	9.5	-9.5	25.0
850.0	4978.1	9.7	-9.3	25.0
804.6	6472.6	9.3	-10.7	23.0
738.4	8795.1	6.0	-13.0	24.0
700.0	10224.4	3.3	-15.3	24.0
684.2	10831.9	2.8	-16.2	23.0
675.4	11176.3	3.3	-16.3	22.0
666.8	11517.4	3.0	-16.6	22.0
658.0	11871.2	3.4	-16.3	23.0
649.4	12221.2	2.6	-16.4	23.0
632.6	12917.3	2.3	-16.2	24.0
615.8	13629.1	.2	-14.9	31.0
604.4	14120.6	-.7	-16.5	29.0
588.1	14836.6	-2.1	-18.5	27.0
575.5	15402.5	-1.9	-19.7	24.0
544.2	16856.2	-4.9	-23.3	22.0
536.5	17224.6	-4.9	-23.3	22.0
521.5	17956.3	-5.9	-24.1	22.0
500.0	19037.6	-7.4	-25.4	22.0
405.5	24247.0	-22.9	-37.0	26.0
400.0	24575.9	-23.7	-37.3	27.0

STATION ALTITUDE 4051.37 FEET MSL  
29 OCT. 82  
ASCENSION NO. 110

UPPER AIR DATA  
3020180110  
10-37  
TABLE 10

GEODETIC COORDINATES  
32.40175 LAT DEG  
106.51232 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	879.7	-2.6	-8.1	66.0	1131.1	641.3	0.0	0.0	1.000269
4500.0	865.1	7.9	-9.8	27.1	1070.0	653.6	212.9	.7	1.000252
5000.0	849.3	9.7	-9.4	25.0	1044.7	655.6	212.9	1.5	1.000247
5500.0	833.9	9.6	-9.8	24.3	1026.2	655.5	212.9	2.3	1.000242
6000.0	818.7	9.4	-10.3	23.6	1008.0	655.3	212.9	3.1	1.000238
6500.0	803.8	9.3	-10.8	23.0	990.5	655.1	212.9	3.9	1.000233
7000.0	789.1	8.6	-11.2	23.2	974.0	654.3	220.5	5.6	1.000229
7500.0	774.6	7.8	-11.7	23.4	959.2	653.4	225.9	7.7	1.000226
8000.0	760.4	7.1	-12.2	23.7	944.0	652.6	229.1	9.7	1.000222
8500.0	746.5	6.4	-12.7	23.9	929.1	651.8	236.2	10.7	1.000218
9000.0	732.8	5.6	-13.3	24.0	914.7	650.8	242.0	11.7	1.000214
9500.0	719.2	4.7	-14.1	24.0	900.9	649.7	246.8	12.6	1.000211
10000.0	705.9	3.7	-14.9	24.0	887.3	648.0	251.3	13.1	1.000207
10500.0	692.8	3.1	-15.7	23.5	872.9	647.0	255.4	13.7	1.000203
11000.0	679.9	3.0	-16.3	22.5	856.7	647.0	259.1	14.1	1.000199
11500.0	667.2	3.0	-16.6	22.0	840.9	647.7	262.5	13.9	1.000196
12000.0	654.8	3.1	-16.3	22.4	824.9	647.8	266.0	13.7	1.000192
12500.0	642.6	2.5	-16.3	23.4	811.4	647.1	268.0	13.6	1.000189
13000.0	630.6	2.1	-16.0	24.8	797.4	646.0	266.9	13.6	1.000186
13500.0	618.8	.6	-15.1	29.7	780.6	644.9	265.8	13.6	1.000185
14000.0	607.2	-5.5	-16.1	29.5	774.9	643.6	265.4	13.2	1.000181
14500.0	595.7	-1.4	-17.6	27.9	763.0	642.5	265.7	12.4	1.000178
15000.0	584.4	-2.0	-18.9	26.1	750.3	641.7	260.1	11.6	1.000174
15500.0	573.3	-2.1	-20.0	23.9	736.3	641.0	268.1	10.5	1.000170
16000.0	562.4	-3.1	-21.2	23.2	725.1	640.4	275.1	8.7	1.000167
16500.0	551.7	-4.2	-22.4	22.5	714.0	639.2	285.5	7.1	1.000164
17000.0	541.2	-4.9	-23.3	22.0	702.4	638.3	292.4	7.1	1.000161
17500.0	530.8	-5.3	-23.6	22.0	689.9	637.8	293.3	6.2	1.000158
18000.0	520.6	-6.0	-24.2	22.0	670.4	637.0	294.0	9.3	1.000156
18500.0	510.6	-6.7	-24.8	22.0	667.0	636.2	293.9	10.7	1.000153
19000.0	500.7	-7.3	-25.4	22.0	655.9	635.3	292.3	12.8	1.000150
19500.0	490.8	-8.8	-26.4	22.4	646.4	635.0	291.1	14.9	1.000148
20000.0	481.0	-10.3	-27.5	22.7	637.1	634.8	290.6	16.9	1.000145
20500.0	471.4	-11.8	-28.6	23.1	628.0	630.0	291.2	18.7	1.000143
21000.0	462.1	-13.2	-29.7	23.5	619.0	628.2	291.7	20.4	1.000141
21500.0	452.9	-14.7	-30.8	23.9	610.2	626.4			1.000139
22000.0	443.8	-16.2	-31.9	24.3	601.6	624.0			1.000136
22500.0	435.0	-17.7	-33.0	24.7	593.1	622.8			1.000134
23000.0	426.4	-19.2	-34.2	25.0	584.7	620.9			1.000132
23500.0	417.9	-20.7	-35.3	25.4	576.4	619.1			1.000130

STATION ALTITUDE 4051.37 FEET MSL  
 29 OCT. 62  
 ASCENDING NO. 110

UPPER AIR DATA  
 3020180110  
 LC-37

0730 MDT

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

TABLE 10 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	409.5	-22.2	25.8	568.3	617.3	1.000128
24500.0	401.3	-23.5	26.8	559.8	615.0	1.000126

STATION ALTITUDE 4051.37 FEET MSL  
29 OCT. 62  
ASCENSION I.O. 110

MANDATORY LEVELS  
3020100110  
LC-37

GEODETIC COORDINATES  
32.40175 LAT DEG  
106.31232 LONG DEG

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4974.	9.7	-9.3	25.	212.9	1.5
800.0	6623.	9.1	-10.9	23.	213.1	4.2
750.0	8368.	6.6	-12.6	24.	234.5	10.4
700.0	10214.	3.3	-15.3	24.	253.2	13.4
650.0	12184.	2.7	-16.4	23.	267.4	13.6
600.0	14295.	-1.1	-17.0	20.	265.0	12.7
550.0	16560.	-4.3	-22.0	22.	287.4	0.9
500.0	19011.	-7.4	-25.4	22.	292.2	12.9
450.0	21663.	-15.2	-31.1	24.		
400.0	24535.	-23.7	-37.3	27.		

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

SIGNIFICANT LEVEL DATA  
3020020520  
WHITE SANDS  
TABLE 12

STATION ALTITUDE 3989.00 FEET MSL  
29 OCT. 82  
ASCENSION NO. 526

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL. HUM.
MILLIBARS	MSL FEET	DEGREES	CENTIGRADE	PERCENT
882.4	3989.0	.3	-8.9	50.0
872.4	4289.9	1.7	-12.8	33.0
865.7	4496.2	7.9	-11.4	24.0
850.0	4992.0	8.5	-13.1	20.0
793.8	6845.2	7.9	-16.3	16.0
768.3	7729.1	8.1	-15.4	17.0
700.0	10227.6	2.9	-19.0	18.0
654.4	12018.6	2.9	-20.4	16.0
623.2	13311.6	.3	-20.0	20.0
587.5	14855.7	-3.2	-25.4	16.0
573.7	15474.4	-2.7	-25.7	15.0
523.1	17862.4	-6.7	-29.7	14.0
500.0	19015.3	-9.7	-32.1	14.0
400.0	24529.0	-23.8	-41.3	18.0
347.3	27867.1	-32.3	-44.9	27.0
322.6	29566.2	-36.3	-40.9	62.0
307.4	30661.9	-39.2	-42.4	71.0
300.0	31210.2	-40.5		
288.0	32121.0	-43.1		
284.4	32399.6	-43.8		
276.6	33012.9	-45.2		
250.0	35206.4	-51.3		
200.0	39864.9	-62.3		
187.0	41226.5	-64.2		
178.2	42205.3	-61.4		
163.2	44001.2	-61.8		
150.0	45712.7	-64.2		
144.2	46509.7	-63.5		
136.2	47660.2	-65.4		
128.6	48818.8	-63.1		
117.3	50757.5	-46.8		
108.9	52314.4	-65.8		
100.0	54029.4	-64.2		
70.0	61302.0	-60.3		
61.4	63851.0	-57.4		
52.1	67450.5	-57.2		
50.0	68316.7	-54.0		
36.0	75311.7	-52.4		
30.0	79210.1	-52.4		

STATION ALTITUDE 3999.00 FEET MSL  
29 OCT. 62 0938 MDT  
ASCENSION NO. 526

DEP AIR DATA  
307 002000  
DATE 50005  
TABLE 13

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3999.0	882.4	.3	-8.9	50.0	1122.0	644.6	.0	.0	1.000266
4000.0	882.0	.4	-9.0	49.4	1122.0	644.7	24.2	.0	1.000266
4500.0	865.6	7.9	-11.4	24.0	1071.7	655.5	24.2	.7	1.000251
5000.0	849.8	8.5	-13.2	20.0	1050.0	659.1	24.2	1.3	1.000244
5500.0	834.2	8.3	-14.0	18.9	1031.4	655.9	24.2	1.9	1.000240
6000.0	819.0	8.2	-14.8	17.8	1015.2	653.7	297.5	.5	1.000235
6500.0	804.0	8.0	-15.7	16.7	995.3	653.5	251.8	2.9	1.000230
7000.0	789.3	7.9	-16.2	16.2	977.4	653.4	234.3	6.8	1.000226
7500.0	774.8	8.0	-15.7	16.7	959.1	653.6	233.0	9.9	1.000222
8000.0	760.6	7.5	-15.8	17.1	943.1	653.0	239.0	12.1	1.000219
8500.0	746.5	6.5	-16.5	17.3	929.2	651.0	237.1	13.0	1.000215
9000.0	732.8	5.5	-17.3	17.5	915.5	650.5	241.3	13.1	1.000212
9500.0	719.2	4.4	-18.0	17.7	902.0	649.3	243.3	13.7	1.000208
10000.0	706.0	3.4	-18.7	17.9	888.7	648.1	245.4	14.3	1.000205
10500.0	692.9	2.9	-19.2	17.7	873.7	647.5	249.0	14.6	1.000201
11000.0	680.0	2.9	-19.6	17.1	857.5	647.5	254.0	14.9	1.000197
11500.0	667.3	2.9	-20.0	16.6	841.5	647.5	259.0	15.0	1.000194
12000.0	654.9	2.9	-20.4	16.0	825.6	647.5	261.3	14.6	1.000190
12500.0	642.6	1.9	-20.2	17.5	813.2	646.4	261.7	13.7	1.000187
13000.0	630.6	.9	-20.0	19.0	800.9	645.2	265.9	14.0	1.000185
13500.0	618.7	-1.1	-20.6	19.5	786.9	643.9	270.9	14.8	1.000182
14000.0	607.0	-1.3	-22.3	18.2	777.3	642.6	276.1	15.2	1.000178
14500.0	595.5	-2.4	-24.1	16.9	765.6	641.2	281.1	15.7	1.000175
15000.0	584.3	-3.1	-25.5	15.8	753.3	640.4	276.3	13.1	1.000172
15500.0	573.1	-2.7	-25.7	15.0	738.0	640.8	267.3	10.4	1.000168
16000.0	562.2	-3.6	-26.0	14.8	726.1	639.8	248.8	8.7	1.000165
16500.0	551.4	-4.4	-27.4	14.6	714.5	638.8	239.7	7.7	1.000163
17000.0	540.8	-5.3	-28.2	14.4	703.0	637.8	245.0	6.6	1.000160
17500.0	530.5	-6.1	-29.1	14.2	691.7	636.6	264.7	6.9	1.000157
18000.0	520.3	-7.1	-30.0	14.0	680.9	635.6	282.4	8.5	1.000154
18500.0	510.2	-8.4	-31.0	14.0	671.0	634.0	290.6	11.6	1.000152
19000.0	500.3	-9.7	-32.1	14.0	661.3	632.5	295.4	14.7	1.000150
19500.0	490.3	-10.9	-32.9	14.4	651.2	630.9	300.3	16.8	1.000147
20000.0	480.5	-12.2	-33.7	14.7	641.3	629.4	303.3	18.8	1.000145
20500.0	470.8	-13.5	-34.5	15.1	631.5	627.3	304.0	20.4	1.000142
21000.0	461.4	-14.8	-35.3	15.4	622.0	626.3	301.9	22.1	1.000140
21500.0	452.2	-16.1	-36.1	15.8	612.5	624.7	297.3	23.9	1.000138
22000.0	443.1	-17.3	-36.9	16.2	603.3	623.2	290.2	24.5	1.000136
22500.0	434.2	-18.6	-37.8	16.5	594.2	621.0	297.3	24.1	1.000134
23000.0	425.5	-19.9	-38.6	16.9	585.2	620.0	300.3	24.3	1.000132

STATION ALTITUDE 3989.00 FEET MSL  
 29 OCT. 62  
 ASCENSION NO. 526

UPPER AIR DATA  
 3020020520  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 13 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES (IN)	SPEED KNOTS	
23500.0	417.0	-21.2	-32.5	17.3	576.4	613.9	304.0	24.8	1.000130
24000.0	400.7	-22.4	-40.4	17.6	567.8	616.9	305.7	24.1	1.000128
24500.0	400.5	-23.7	-41.3	18.0	559.2	615.3	307.5	23.3	1.000126
25000.0	392.1	-25.0	-41.7	19.3	550.4	613.7	310.0	23.0	1.000124
25500.0	383.9	-26.3	-42.1	20.6	541.0	612.2	312.1	23.6	1.000122
26000.0	375.9	-27.5	-42.6	22.0	533.0	610.6	315.1	26.0	1.000120
26500.0	368.0	-28.8	-43.2	23.3	524.6	609.0	315.4	28.8	1.000118
27000.0	360.3	-30.1	-43.8	24.7	516.3	607.4	318.4	32.2	1.000116
27500.0	352.7	-31.4	-44.4	26.0	508.2	605.8	321.9	34.8	1.000114
28000.0	345.3	-32.6	-44.3	29.7	500.0	604.2	325.4	37.2	1.000112
28500.0	337.9	-33.8	-42.6	40.0	491.7	602.8	327.7	38.0	1.000110
29000.0	330.6	-35.0	-41.0	50.3	483.5	601.3	329.6	38.3	1.000109
29500.0	323.5	-36.1	-41.0	60.6	475.4	599.8	330.3	38.9	1.000107
30000.0	316.5	-37.4	-41.5	65.6	467.7	598.2	330.8	39.6	1.000105
30500.0	309.6	-38.9	-42.2	69.7	460.1	596.5	333.0	39.7	1.000103
31000.0	302.8	-40.0	-51.6	27.2**	452.4	594.9	335.1	39.8	1.000101
31500.0	296.1	-41.3			445.0	593.2	336.5	39.9	1.000099
32000.0	289.6	-42.8			437.8	591.5	337.3	40.4	1.000098
32500.0	283.1	-44.0			430.4	589.7	337.1	41.3	1.000096
33000.0	276.8	-45.2			422.9	588.2	337.8	42.2	1.000094
33500.0	270.5	-46.6			415.8	586.4	338.9	42.9	1.000093
34000.0	264.3	-47.9			408.8	584.6	341.3	44.2	1.000091
34500.0	258.3	-49.3			402.0	582.8	343.7	45.6	1.000090
35000.0	252.4	-50.7			395.3	581.0	346.4	46.9	1.000088
35500.0	246.5	-52.0			388.3	579.4	349.1	48.2	1.000086
36000.0	240.7	-53.2			381.1	577.8	352.5	48.6	1.000085
36500.0	235.0	-54.4			374.1	576.3	355.8	49.5	1.000083
37000.0	229.4	-55.5			367.3	574.7	357.9	52.7	1.000082
37500.0	224.0	-56.7			360.5	573.1	359.4	55.6	1.000080
38000.0	218.7	-57.9			353.9	571.6	359.9	57.8	1.000079
38500.0	213.5	-59.1			347.5	570.0	.2	60.1	1.000077
39000.0	208.5	-60.3			341.1	568.4	360.0	62.6	1.000076
39500.0	203.5	-61.4			334.9	566.8	359.5	63.7	1.000075
40000.0	198.7	-62.5			328.5	565.4	358.5	62.2	1.000073
40500.0	193.8	-63.2			321.0	564.5	355.0	59.5	1.000072
41000.0	189.1	-63.9			314.8	563.6	349.0	55.0	1.000070
41500.0	184.5	-63.4			308.4	564.2	343.6	51.3	1.000068
42000.0	180.0	-62.0			297.0	563.1	339.9	47.9	1.000066
42500.0	175.6	-61.5			289.1	562.8	338.7	41.3	1.000064
43000.0	171.4	-61.6			282.2	563.7	339.0	32.6	1.000063

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 3989.0 FT MSL  
29 OCT. 62  
ASCENSION NO. 526

000000000000  
3029020920  
0000000000  
TABLE 13 (Cont'd)

REFRACTIVE COEFFICIENTS  
32.40043 LAT DEG  
100.37933 LG. DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DEW POINT TEMP. °C	WIND SPEED KM/HR	WIND DIRECTION DEGREES (T)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	157.3	-61.7		275.5	560.5	350.5	25.7	1.000061
44000.0	155.2	-61.8		267.0	560.4	350.0	19.8	1.000060
44500.0	153.2	-62.5		263.5	560.4	350.0	18.5	1.000059
45000.0	151.4	-63.2		257.8	560.5	300.5	16.4	1.000057
45500.0	151.6	-63.0		252.4	560.5	294.0	24.4	1.000056
46000.0	147.9	-63.9		240.5	560.5	292.0	30.0	1.000055
46500.0	144.3	-63.5		233.7	560.1	295.1	35.7	1.000053
47000.0	140.7	-63.3		234.8	563.0	298.5	40.0	1.000052
47500.0	137.3	-65.1		229.7	561.9	304.1	42.5	1.000051
48000.0	135.9	-64.7		225.0	562.4	309.7	43.9	1.000050
48500.0	130.6	-63.7		217.5	562.8	314.0	38.2	1.000048
49000.0	127.5	-61.0		209.9	562.7	319.0	32.3	1.000047
49500.0	124.5	-57.4		201.0	571.0	320.6	24.0	1.000045
50000.0	121.6	-53.2		192.6	577.6	317.9	16.3	1.000043
50500.0	115.7	-49.0		184.5	583.5	301.2	10.5	1.000041
51000.0	110.0	-49.8		183.0	582.5	200.9	10.8	1.000040
51500.0	113.2	-55.9		181.5	574.5	244.0	14.5	1.000040
52000.0	110.5	-62.0		182.4	560.1	249.4	19.8	1.000041
52500.0	107.9	-65.6		181.1	561.2	252.1	25.2	1.000040
53000.0	105.3	-65.2		176.3	561.0	200.1	26.7	1.000039
53500.0	102.7	-64.7		171.0	562.5	278.6	29.5	1.000038
54000.0	100.1	-64.2		167.0	563.1	260.0	29.3	1.000037
54500.0	97.7	-63.9		162.7	563.5	292.6	28.6	1.000036
55000.0	95.4	-63.7		150.0	563.0	294.7	27.0	1.000035
55500.0	93.0	-63.4		154.5	564.2	294.5	25.0	1.000034
56000.0	90.8	-63.1		150.0	564.6	293.7	23.2	1.000034
56500.0	88.6	-62.9		146.8	564.9	292.5	21.5	1.000033
57000.0	86.4	-62.6		143.0	563.5	209.0	20.0	1.000032
57500.0	84.3	-62.3		139.4	563.0	285.5	18.7	1.000031
58000.0	82.3	-62.1		135.8	563.0	282.5	17.4	1.000030
58500.0	80.3	-61.8		132.4	560.4	280.2	16.2	1.000029
59000.0	78.4	-61.5		129.0	560.7	278.0	15.1	1.000029
59500.0	76.5	-61.3		125.7	567.1	275.6	14.1	1.000028
60000.0	74.6	-61.0		122.5	567.4	273.9	13.4	1.000027
60500.0	72.8	-60.7		119.4	567.8	278.4	14.7	1.000027
61000.0	71.0	-60.5		116.4	563.2	282.1	15.9	1.000026
61500.0	69.3	-60.1		113.4	560.7	282.6	16.0	1.000025
62000.0	67.7	-59.5		110.4	560.4	282.6	15.9	1.000025
62500.0	66.1	-58.9		107.4	570.2	276.8	13.4	1.000024
63000.0	64.5	-58.4		104.0	570.9	261.5	9.9	1.000023

STATION ALTITUDE 3989.00 FEET MSL  
29 OCT. 62  
ASCESSION NO. 526

UPPER AIR DATA  
NO20020220  
WHITE BANDS

GEOLYTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 13 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CM <sup>3</sup>	SPLD OF SOUND METERS	WIND DATA DIRECTION (TN) SPEED KNOTS	INDEX OF REFRACTION
63500.0	63.0	-57.4		101.8	571.7	243.9	1.000023
64000.0	61.5	-57.4		99.2	571.2	237.9	1.000022
64500.0	60.0	-57.4		96.9	571.3	234.6	1.000022
65000.0	58.6	-57.3		94.6	571.3	241.9	1.000021
65500.0	57.2	-57.3		92.3	572.4	248.3	1.000021
66000.0	55.8	-57.3		90.1	572.4	246.6	1.000020
66500.0	54.5	-57.3		88.0	572.4	244.4	1.000020
67000.0	53.2	-57.2		85.9	572.5	243.9	1.000019
67500.0	52.0	-57.0		83.8	571.7	243.8	1.000019
68000.0	50.8	-55.2		81.1	573.2	242.8	1.000018
68500.0	49.6	-54.0		78.6	576.8	240.9	1.000018
69000.0	48.4	-53.8		76.9	576.9	238.6	1.000017
69500.0	47.3	-53.7		75.1	577.1	236.3	1.000017
70000.0	46.2	-53.6		73.3	577.2	235.7	1.000016
70500.0	45.1	-53.5		71.6	577.4	236.9	1.000016
71000.0	44.1	-53.4		69.9	577.5	242.6	1.000016
71500.0	43.1	-53.3		68.2	577.7	243.4	1.000015
72000.0	42.1	-53.2		66.6	577.8	242.8	1.000015
72500.0	41.1	-53.0		65.0	578.0	226.3	1.000014
73000.0	40.1	-52.9		63.5	578.1	242.6	1.000014
73500.0	39.2	-52.8		62.0	578.3	244.6	1.000014
74000.0	38.3	-52.7		60.5	578.4	296.0	1.000013
74500.0	37.4	-52.6		59.1	578.6	305.3	1.000013
75000.0	36.5	-52.5		57.7	578.7	315.0	1.000013
75500.0	35.7	-52.4		56.3	578.8	329.8	1.000013
76000.0	34.9	-52.4		55.0	578.8	346.2	1.000012
76500.0	34.1	-52.4		53.7	578.8	5.0	1.000012
77000.0	33.3	-52.4		52.5	578.6		1.000012
77500.0	32.5	-52.4		51.3	578.8		1.000011
78000.0	31.7	-52.4		50.1	578.8		1.000011
78500.0	31.0	-52.4		48.9	578.8		1.000011
79000.0	30.3	-52.4		47.8	578.8		1.000011

STATION ALTITUDE 3995 FEET MSL  
20 OCT 62  
ASCENSION ID. 525

MANDATORY ELEMENTS  
3000020000  
WIND 30000  
TABLE 14

COORDINATES  
32.40043 LAT DEG  
166.37033 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (M)	SPEED KNOTS	
850.0	4988.	8.5	-13.1	20.	24.2	1.3	
800.0	6629.	9.0	-15.9	16.	235.0	0.9	
750.0	8373.	6.8	-16.4	17.	230.4	12.9	
700.0	10218.	2.6	-19.0	13.	247.3	14.4	
650.0	12185.	2.5	-20.3	17.	261.4	14.2	
600.0	14200.	-2.0	-23.4	17.	279.1	15.5	
550.0	16549.	-4.5	-27.5	13.	240.3	7.6	
500.0	18989.	-9.7	-32.1	14.	295.5	14.6	
450.0	21623.	-16.4	-36.3	16.	296.1	24.5	
400.0	24488.	-23.8	-41.3	18.	307.5	23.3	
350.0	27637.	-31.8	-44.7	27.	325.2	35.7	
300.0	31140.	-40.5			335.7	35.9	
250.0	35130.	-51.3			347.5	47.4	
200.0	39769.	-62.3			350.8	52.7	
175.0	42468.	-61.5			338.8	40.4	
150.0	45590.	-64.2			293.5	26.7	
125.0	49261.	-58.1			321.0	26.6	
100.0	53863.	-64.2			280.0	29.3	
80.0	58370.	-61.8			280.1	16.1	
70.0	61092.	-60.3			282.5	16.1	
60.0	64271.	-57.4			234.1	8.4	
50.0	68060.	-54.0			241.8	6.0	
40.0	72771.	-52.9			242.8	.7	
30.0	78871.	-52.4					

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

**END**

**FILMED**

**2-83**

**DTIC**